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A WEEKLY EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

(548) Tuberculosis of the Paracentral Region.

IN the *Bulletins de la Société Anatomique de Paris*, April-May, 1891, p. 274, MM. A. Souques and J. B. Charcot discuss the reason of the localisation of tuberculous lesions in the paracentral region. By the latter they mean not only the paracentral convolution seen in the inner surface of the cerebral hemisphere, but also the projection of that convolution in the external surface, thus including the upper ends of the ascending frontal and ascending parietal convolutions. Their attention was drawn to the matter by having observed in a case of pulmonary tuberculosis an attack of Bravais-Jacksonian epilepsy, which began in the left leg and was followed by monoplegia. M. Charcot, under whose care the patient was, diagnosed a tuberculous lesion of the right paracentral region, and this was afterwards verified. In searching the literature of similar cases they were struck with the frequency of bacillary determinations in the paracentral region. It seemed clear that tuberculosis attacked much more frequently the motor centres of the lower limbs than those of the arms or face. The question then arose whether this frequency might not be due to certain special anatomical conditions. The frequency was shown by reference to cases of cerebral tubercle collected from the *Bulletins de la Société Anatomique*, which showed that out of nineteen cases there was cerebral monoplegia in thirteen, brachial in five, and facial in one. In only one case was the lesion found to be bilateral. It seems that the proportion of cases of localised tuberculosis of the psychomotor centres has a direct relation to the height of those centres. They are exceptional in the centres for the movements of the face, not rare in the centres for the arms, and frequent in the centres for the legs. The tuberculosis is not, properly speaking, central, but has its origin in the pia mater, and is formed by the fusion of numbers of smaller tubercles. It acts by compression and not by destruction, and is not associated with permanent alterations of sensibility. Further inquiry shows that many examples can be given of cysts, syphilis, and cancer of the paracentral region. The reasons which determine the localisation of tubercles in the paracentral region are as follows: It is the summit or culminating point of the hemisphere; it is supplied by the two primordial branches of the carotid artery, the Sylvian and anterior cerebral; moreover, the terminal branches of the latter arteries are distributed to it; for instance, the frontal and ascending parietal of the Sylvian, and two or three terminal branches of the anterior cerebral. There is no other region of the cortical area which receives so many vessels, and which, therefore, is so likely to be the seat of the deposit of tubercle bacilli. Again, in spite of its numerous vessels, the circulation is feeble in this region, the vessels reaching it after their ascent, and without anastomosing much with each other. The authors argue that all the foregoing conditions are very favourable for the arrest of tubercle bacilli and for their germination. As a rule, tuberculosis of the paracentral region is secondary to deposits elsewhere, and more often by the time the case is seen the tubercle has spread to the neighbouring meninges. Sometimes, however, the tumour remains isolated and is amenable to surgical measures, and this is especially the case when the disease is primary.

(549) Cerebral Tumour and Papillitis.

DR. BULL (*Jour. Nerv. and Ment. Disease*, March, 1891) considers that the most common cause of papillitis is intracranial tumour. Meningitis, cerebral abscess, hydatid disease, and brain suffering from vascular lesion are other causes arranged in order of decreasing frequency. The frequency and severity of the papillitis do not seem to be especially influenced by the nature, size, or location of the tumour. Pure papillitis is well known to occur in simple anæmia, and without any apparent intracranial affection. Increased pressure within the skull cannot be looked upon as a causative agent, for in chronic hydrocephalus, where the intracranial pressure reaches its maximum, papillitis is exceedingly rare. The fact that dropsy of the optic sheath does not always accompany papillitis shows that it cannot be the chief mechanical cause thereof. The conspicuous constriction of the vessels is always in front of the sclerotic. In cases of cerebral tumour, evidence of descending inflammation may be traced in the sheath or nerve much more commonly than is usually supposed; in meningitis this evidence is almost constantly present. The mechanical congestion in these cases does not always result from compression of the vessels behind the sclerotic, but it invariably follows compression from inflammatory exudation in the papilla.

(550) Chronic Interstitial Myocarditis.

AFTER reviewing the history of this subject, MM. Bard and Philippe discuss (*Revue de Médecine*, May, 1891) its pathological anatomy, pathogeny, and etiology. Moderate hypertrophy of the heart is a constant phenomenon, with dilatation of its cavities, particularly of the left ventricle. On section, the colour varies according

to the degeneration of the muscle. The thickness of the ventricular wall is not uniform; it is more especially thin at the apex. The interstitial change is visible to the naked eye in lines or *plaques*. The papillary muscles are particularly affected. Whenever cardiac hypertrophy is present with no valvular disease, myocarditis should be thought of. Microscopically, the patches of sclerosis are made up of bands of fibrous tissue, and the muscular elements are atrophied. If the process is rapid, cellular elements predominate. In the *plaques*, the vessels show a periarteritis; elsewhere there is no constant change found in them. The authors do not believe the disease to be of vascular origin, for the inner coat of the vessel is healthy. In the other viscera the effects of chronic congestion are seen. Many confound this interstitial myocarditis with the sclerosis set up by vascular disease. In the senile heart like changes arise, due to progressive obliteration of the small arteries. As to atheroma affecting the large branches of the arteries of the heart, most often one of the chief trunks near its origin is involved, from which a true angina pectoris may result. Rarely a branch may be completely obliterated, giving rise to necrotic foci. This interstitial myocarditis is not due to hypertrophy the result of valvular disease, for the latter is seldom present. Nor is it the outcome of renal disease, for in purely primary forms of nephritis this diffuse interstitial myocarditis is never seen. Nor is it due to diseases of the lungs, for then the right side of the heart would be chiefly affected. It is really a primary myocarditis. The changes in the muscular fibres are degenerative, without any signs of inflammation, whereas those in the interstitial tissue are active. Thus the changes in the latter are primary. In the course of infective diseases inflammatory lesions are apt to take place in the interstitial tissue, and these may become chronic. Two sets of agents may set up this inflammatory sclerosis of the myocardium: (1) intoxications from alcohol, lead, gout, etc., and (2) infective diseases—enteric fever, diphtheria, pyæmia, eruptive fevers, syphilis, though here the pure interstitial myocarditis must be distinguished from the sclerosis due to syphilitic endarteritis and tubercle. Rheumatism, which may in any of its forms set up myocarditis, occupies as it were an intermediate position between these two classes of diseases.

SURGERY.

(551) Removal of a Large Goitre from an Accessory Thyroid.

Dr. Palmiro Jemoli, in a reprint of a communication made to the Turin Academy of Medicine, on June 6th, 1890, relates a case in which Professor Bottini, of Pavia, successfully removed a very large goitre, of which an accessory thyroid body was the seat. The patient was a woman, aged 52, who had first noticed a tumour in her neck twenty-five years before, during her first pregnancy. It increased in size slowly but steadily, in spite of external applications, but without interfering with breathing and swallowing, till a few months before she came under Dr. Bottini's care, when it began to grow rapidly, and to cause not only dyspnœa and dysphagia, but frequent fainting fits and neuralgia in the neck and arm. On admission the tumour, which was situated on the right side of the neck, was as large as the head of a newborn child; it extended vertically from the mastoid to two fingers' breadth below the clavicle, and transversely from the larynx and trachea almost to the spinous processes of the cervical vertebræ. The mass measured 21 centimetres in its longest diameter, and the circumference of the neck at the most prominent part of the goitre was 50 centimetres. The tumour hardly moved during deglutition, and the skin over it was smooth and thin. No *bruit* could be heard in it, but on its inner side could be felt the strong beat of a large artery, which was judged to be the carotid pushed out of place. All the dangers of the operation having been fully explained to the patient, excision was performed on March 13th, 1890. A curved incision 20 centimetres long was made, reaching from the mastoid to three fingers' breadth below the clavicle. The external jugular vein was divided between two ligatures; and the sterno-mastoid, which it was found impossible to turn aside, was almost completely cut through. Hæmorrhage was so abundant that it was found difficult to separate the tumour from its surroundings, but with the help of forcipressure or "angioclastic" forceps of his own invention, Professor Bottini succeeded in freeing it on the outer side without much loss of blood. On the inner side the difficulty was much greater on account of the displaced carotid artery, which was there adherent to the tumour. After separating the vessel for about 2 centimetres, Bottini judged it inexpedient to continue the attempt, on account of the length of time that would be required to dissect it out, and the almost certain risk of injuring its coats. He therefore decided to tie it and the internal and external carotids above, together with the thyroid and lingual branches of the latter, and remove the intervening parts of these vessels with the tumour. The enucleation of the mass was then completed, the tissues being carefully divided between forceps. After removal an enormous gap was left with the larynx and trachea and the right lobe of the thyroid on the inner side, and the nuchal muscles on the outer, whilst in the bottom of the wound the bodies of the cervical vertebræ could be felt almost bare. In the wound were some twenty-five pairs of forceps, some of which were removed without any bleeding taking place, while in other cases a catgut ligature was placed round the compressed tissue before the forceps was taken off. The upper part of the wound was closed with sutures, the lower being stuffed with "zinco-sulpho-carbolate" gauze. The patient was perfectly conscious when placed in bed, and slept nearly all night, in spite of a good deal of intestinal disturbance which had begun the previous evening and recommenced when she awoke. The temperature, however, was normal, the pulse 76, and the respirations 17. The day after the operation, as the dressing, which was soaked with sero-sanguinolent discharge, was being changed, slight paralysis of the left side of the face came on suddenly. The tongue was deviated to the right, and speech was somewhat embarrassed. The tampon of gauze was taken out, the lower part of the wound was stitched up, and a drain tube inserted. The paralytic phenomena entirely disappeared in a few hours. The sutures were removed six days after the operation, when the whole wound was found healed by first intention. The patient was allowed to get up on the tenth day. The voice, which had been rather hoarse, recovered its normal character, and seventeen days after the operation the woman was discharged perfectly

cured. The mass removed measured 18 centimetres in the long, by 16 in the short, diameter, and weighed 690 grammes. Imbedded in it was a piece of the common carotid 6 centimetres in length, with 4 centimetres of the internal and 2 of the external carotid, the latter having the thyroid and lingual branches springing from it. Microscopic examination showed the tumour to be a cystic bronchocele.

(352) Subcutaneous Rupture of Extensor Tendons of Fingers.

In the *Archives Générales de Médecine*, May, 1891, M. E. Schwartz, of the Hôpital Cochin, of Paris, reports three cases, treated by himself, of subcutaneous rupture of one of the extensor tendons of the hand close to its insertion into the terminal phalanx. This lesion has also been observed by other surgeons, and has been fully studied from both an anatomical and a clinical point of view by M. Delbet. The symptoms of the injury are: marked flexion of the distal segment of the finger, slight swelling and ecchymosis over the last interphalangeal joint, a circumscribed tender spot on the dorsum of the last phalanx, just below the joint, and inability of the patient to extend the last segment of the injured finger, all other movements being unimpeded. In two of Schwartz's cases the injured extensor tendon was that of the little finger, and in the third instance that of the middle finger. In this last case an incision was made over the ruptured tendon, the two ends of which were brought together with a catgut suture. The injury is usually caused by overflexion of the end of the finger, or by violent traction on the last segment whilst in the flexed position. M. Schwartz is of opinion that in most instances in which the above mentioned symptoms are present, the lesion consists in rupture, either partial or complete, of the extensor tendon. Occasionally these symptoms may be caused by tearing away of the tendon at its insertion into the phalanx or by fracture of this bone, but neither of these lesions, it is held, is so likely to occur as Delbet was led to assume from the results of experiments on the dead body. If a case of subcutaneous rupture of an extensor tendon be left to itself, the last phalanx becomes fixed in the flexed position, and the use of the injured finger is much impaired. The treatment should consist at first in the application of a straight splint to the front of the finger, in order to keep the terminal phalanx fully extended. If this should fail and the patient be unable to extend the end of the finger, after an interval of three or four weeks, the surgeon ought, according to M. Schwartz, to cut down upon and stitch together the divided ends of the tendon. In the case recorded in this paper, the patient when last seen after an interval of six months from the date of operation, had free use of the injured finger, and the result of the treatment, it is stated, was much better than that usually attained by the simple use of splints.

(353) Plastic Operation for Congenital Syndactyly.

Kummer (*Revue d'Orthopédie*, March, 1891) publishes a case of congenital syndactyly in a child, aged 7, in which he operated by the Italian method. The third and fourth (ring) fingers were completely and irregularly united, the only movements being slight flexion and extension in the metacarpo-phalangeal and last interphalangeal joint. The skin incisions were so planned as completely to cover the third finger, leaving a raw surface on the contiguous side of the fourth finger. A triangular flap, after the method of Zeller, was shaped to form the commissure of the two fingers. The second and third phalanges of the fourth finger had to be completely removed and, to straighten the third finger, the joint between the first and second phalanges was resected. The conjoined nail and the first phalanx (which was bifid at its distal end) of the third finger were divided longitudinally in the middle line, one half being left on the third finger, and the other half adapted to the fourth. In the third, as well as in the fourth fingers, the tendons were well formed, and the vessels and nerves were not injured at the operation. A month later cicatrisation of the third finger was complete and the raw surface of the fourth finger was covered with granulations. Kummer now refreshed the edges of the wound of the fourth finger, scraped away the granulations, and formed a flap for covering in the raw surface from the skin of the thorax. The free edge of this flap was attached by suture to the posterior border of the wound along the fourth finger. The hand and arm were then secured to the chest by plaster-of-paris bandages. Nine days later the flap was cut through at its base, and the cut edge was sutured to the anterior border of the wound of the fourth finger, thus completely covering in the raw surface left on that digit. At the end of some weeks the mobility of the metacarpo-phalangeal joint was perfect, though movement was considerably limited in the interphalangeal joints. Sensibility of the third finger was normal, but obtuse in the thoracic flap of the fourth. There was no tendency of the fingers to re-unite. The fourth finger was considerably shortened.

MIDWIFERY AND DISEASES OF WOMEN.

(354) Metritis Dissecans.

Dr. Garrigues (*Archiv f. Gynäkol.*, vol. xxxviii, Part 3, p. 511) relates two cases of this rare and formidable complication of the puerperium. Höchstenbach, not long ago, stated that but twelve cases had been recorded. Dr. Garrigues adds two to a series of six published in the *New York Medical Journal*, vol. xxxvi, 1882, p. 537. He makes out fourteen genuine recorded cases in all. He particularly dwells on the fact that all occurred in the first week after labour. In all, thick and broad pieces of the muscular coat of the uterus exfoliated. In one instance the exfoliation extended through the whole thickness of the uterus, including the serous coat. Of the new cases, the first occurred in a woman aged 28; prolapse of the funis took place and the forceps had to be used. Puerperal diphtheria followed, diphtheritic ulcers forming in the vagina. Douches of boracic acid solution and other remedies brought the patient out of a desperate condition. On the twentieth day, when the patient was convalescent, something was seen hanging from the vulva after the use of the douche. It was found to proceed from the cervix, and was easily extracted with a pair of dressing forceps. It proved to be a piece of the uterine muscular tissue, 2¾ inches long, and three-quarters of an inch thick in the middle, but rather thinner at the edges. After the discharge of this fragment, the patient made a rapid recovery. The second patient was 23, and labour was normal. On the second day the fundus was tender to pressure, the lochia rather scanty and

fœtid. There had been slight laceration of the perineum, which was promptly painted with tincture of iodine; by the second day an ulcer spread an inch upwards from the perineum, over the vaginal wall. On the third day abdominal pains set in with tenderness in the hypogastrium and loins. During the next few days the patient got worse, the fundus rose nearly four inches above the pubes, and was very tender. Salicylate of soda in 30-grain doses was given. On the sixth day the patient was collapsed, the temperature fell to 96.5°, the pulse to 80. Alcohol was given. Fever set in again, and ceased about the twelfth day. The patient remained very feeble for weeks. She did not rise from her bed till the thirty-first day. On the thirty-sixth a substance fell, painlessly, out of the vagina, as she lay in bed. She left hospital, well, at the end of seven weeks after labour. The discharged piece of uterine wall was over three inches long and one inch and a half broad. This metritis dissecans is always due to infection. Micrococci have been detected by Grammatikati and others. Dr. Garrigues believes that in pre-Listerian days such cases would have developed into Boër's putrescentia uteri. His own eight cases of metritis dissecans occurred within eighteen months, at a time when he had reason to believe that the antiseptic regulations of his maternity were not properly carried out. As to allied diseases, Dr. Garrigues has seen a fatal case of gangrena uteri partialis, with a characteristic yellow layer of demarcation. The patient was 33, and died a week after labour; the disease seemed purely diphtheritic. The uterus reached high above the pubes and the omentum adhered to it. Kubassow's endometritis dissecans is a disease unconnected with childbed: it is the endometrium that is shed, with but little of the muscular coat of the uterus. Markonnet's perivaginitis phlegmonosa dissecans is also non-puerperal; a portion of the muscular coat of the uterus came away in that observer's cases, but only from the vaginal part of the cervix in connection with the adjacent inflamed vaginal tissues.

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(555) Rupture of Tubal Pregnancy at the First Week.

Dr. Bröse (*Centralbl. f. Gynäk.*, Jan. 3rd, 1891) exhibited, at a meeting of the Berlin Obstetrical and Gynæcological Society, a tubal sac ruptured at the first week (*sic*, ? month) of pregnancy. The patient was 34; she had borne two children and aborted twice. In 1887 Dr. Bröse treated her for gonorrhœa, with perimetritis. On November 11th, 1890, she suddenly became acutely anæmic. The period, due on October 12th, did not appear. On October 18th a "show" was observed; it lasted fourteen days. From November 1st to 10th she felt well. The pallor on November 11th was attributed to rupture of a tubal cyst, and she was admitted into hospital. The weak pulse improved. Early on November 14th severe vomiting set in. The abdomen, slightly distended on admission, became enormously swollen, tympanitic, and tender. No flatus passed even after enemata. Abdominal section was performed at noon. The peritoneal cavity was full of clots and dark fluid blood, and the intestines, especially the colon, tense through distension with gas. The gut lay so much in the way, even when the body was inclined with the head downwards (Trendelenburg-Veit position), that much of it had to be raised out of the abdominal wound. No trace of peritonitis could be detected, nor was there any mechanical obstruction. On gentle pressure of the colon, air escaped from the rectum; the tympanites was, therefore, attributed to paralysis of the intestine. A rent, 1 inch long, was found in the thickened right tube, near the uterine end. The ovum was found in a collection of clot in Douglas's pouch. The rent in the tube was covered by coagula, but it no longer bled. The patient died of collapse two hours and a half after the operation. At the necropsy no evidence of obstruction, peritonitis, or sepsis could be found. The precise cause of the paralysis of the gut following the acute anæmia was not certain: perhaps it was toxic, through reabsorption of some of the effused blood.

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(556) Acute Torsion of Ovarian Pedicle.

Dr. Mackenrodt (*Centralb. f. Gynäk.*, March 28th, 1891) describes the case of a patient, aged 38, who had been seized on December 16th, 1890, with sudden increase of abdominal pain, from which she had suffered for years. Her abdomen had recently grown larger. On December 17th fæcal vomiting came on, and became frequent on the next day; neither fæces nor flatus passed from the anus. On the 20th, when she was admitted into Dr. Martin's institution in Berlin, she was collapsed and jaundiced; the temperature was normal, the pulse small and frequent. The uterus was pressed against the symphysis by a tumour which reached to above the navel. The abdomen was distended and tender. The legs and abdominal integuments were œdematous. On December 21st abdominal section was performed. A deeply congested ovarian tumour, strangulated by torsion of its pedicle, was found and removed. The entire surface of the peritoneum in the hypogastric and pelvic regions was dark blue from congestion. As there were no adhesions the operation was not difficult. The pedicle, about 2 inches broad, was twisted one turn and a half around its axis. Recovery was rapid. It is remarkable that, notwithstanding the severe symptoms of strangulation and peritonitis, there was no rise of temperature, yet the pulse was much affected. The tumour was a dermoid ovarian cyst; free hæmorrhage into its cavity had occurred.

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(557) Velamentous Insertion of the Cord.

Dr. Addison Foster (*American Journal of Obstet.*, April, 1891) read notes of a case of this complication before a recent meeting of the Gynæcological Society of Chicago. The patient, aged 26, had a lingering and painful but otherwise natural labour. The child was delivered with considerable flooding, and was blanched. The flooding continued till the expulsion of the placenta, which took place without any difficulty. The umbilical cord entered the membranes opposite the placenta, and, dividing and spreading, passed to the edge of that structure, where it divided still more into branches, which ran over the placental surface. One large vein, about 4 inches from the margin of the placenta, was ruptured. Dr. Foster believed that it was the seat of hæmorrhage. Dr. Jaggard, in discussing this specimen, pointed out that the case was typical; the cord was inserted into the chorion at the pole of the ovum opposite to the placenta. The anomaly did not appear to affect the development of the child or the course of the labour.

DISEASES OF CHILDREN.

(358) Treatment of Encephalocele.

M. A. Broca contributes (*Rev. des Maladies de l'Enfance*, June, 1891) a note on the treatment of encephalocele. He starts with the proposition that patients with encephalocele are doomed to an early death or to become idiots. He utterly condemns treatment by pressure or by puncture and injections of iodine; in those children who escape suppurative meningitis after such treatment the tumour very seldom diminishes, much less disappears. He recommends excision. The base of the tumour is reached by a double incision leaving two small flaps to be used for closing the wound. He condemns incision of the tumour as liable to lead to serious consequences owing to subsequent draining away of cerebro-spinal fluid; he prefers to place a ligature around the base at the deepest point which can be reached. He does not speak decidedly as to the necessity of suturing the periosteum. He thinks that the fear of removing important quantities of the cerebrum may be set aside. The substance of the encephalocele is not often a portion of the cerebrum proper but is a true tumour. In König's case, in which it looked very like a mass of cerebrum, it turned out to be telangiectatic glioma surrounding a very small quantity of cerebral tissue; in Berger's and Périer's cases it was a "cerebroma." In Picqué's case, however, though the encephalocele consisted of a cystic dilatation of a portion of the occipital lobe and the cerebellum, the patient recovered, and, in M. Broca's opinion, would have been in a worse case if untreated. Sufficient time has not yet elapsed to permit the formation of a definite opinion as to the subsequent mental development of these children after excision. In Berger's case, in which a cerebroma was removed, the child, at the age of 18 months, appeared to be of "sufficient" intelligence. As much cannot be hoped in cases such as Picqué's, but the diagnosis of the contents of an encephalocele being impossible it is desirable to operate by excision in all cases. The age at which operation has been performed has varied from a few days to some months, but most of the children less than one month old have died. Strict antiseptic precautions should be observed, several of the deaths having been due to the wound becoming septic.

(359) Convulsions as a Cause of Cerebral Hæmorrhage in Early Life.

Ashby (*Practitioner*, June, 1891) refers to the difficulty of determining whether in those children who are hemiplegic, and who give a history of severe convulsions, these caused minute hæmorrhages which gave rise to the convulsions, or whether the convulsions and the hemiplegia were both caused by hæmorrhages. He is inclined to think that often the convulsions are the cause of the hæmorrhage, and he gives the following case to support this view. A child, 12 years old, was brought to the hospital suffering from right hemiplegia. The history given was that at the age of 2 years he had several severe convulsions attributed to indigestion; before these he was apparently quite healthy, but afterwards it was noticed that the right arm was useless, and he dragged the right leg. Until the age of 10 he had many fits, but since then he has been free. He died of tuberculosis a few months after admission. The brain appeared healthy when examined externally, but on section several small old blood cysts were found in the neighbourhood of the corpora striata on both sides, but they were very much larger on the left side than the right. Dr. Ashby believes that at the age of 2 the convulsions gave rise to the hæmorrhages, and the paralysis supervened upon them, for there is nothing whatever to indicate that any thrombosis, embolism, or arteritis could have caused the hæmorrhages.

(360) Occlusion of Duodenum in a Newborn Child.

MM. Porák and Bernheim (*Bull. et Mém. de la Soc. Obstét. et Gynéc. de Paris*, No. 4, April, 1891) describe a case where a woman was delivered at the eighth month of a sickly female child. There was hydramnios, and over six pints of fluid came away during labour. There were two small fibrous deposits in the placenta. On the first day the child vomited dark matter, each attack of vomiting coming on about three-quarters of an hour after suckling. On the third day, as no meconium had passed, imperforate rectum was suspected; but a sound could be passed for over two inches up the anus. An enema was given; and a little meconium came away; but the vomiting continued, and the infant died on the fifth day. The stomach was found much dilated; the lower part of the large intestine was full of meconium, but the remainder of the intestinal canal was like a little packet of worms. The stomach communicated by a contracted orifice, apparently the pylorus, with a blind pouch which had no connection of any kind with the rest of the intestine, which terminated above in a blind extremity close to the pancreas, which opened into it. In a similar case reported by Crooks in 1828, the pancreatic duct opened into the pouch connected with the stomach. Luton described in 1855 a third case where that pouch communicated with the blind end of the intestine by a ligament. There was a similar breach of continuity between the large and small intestine. No trace of peritonitic bands could be seen in Drs. Porák and Bernheim's case.

PHARMACOLOGY AND THERAPEUTICS.

(361) Hypodermic Injections of Goat's Blood in Tuberculosis.

MM. Bertin and Picq, of Nantes, lately published (*Gazette Méd. de Nantes*, April 12, 1891) some cases in which they obtained good results from hypodermic injections of goat's blood in tuberculosis. Their cases, at the date reported, numbered 50, but only 22 are reported in full. These include 17 cases of internal tuberculosis (in one case complicated with lupus of the face), in 11 of which great improvement followed the treatment. Temperature fell, night sweats and expectoration ceased or diminished to a marked degree, physical signs cleared up, appetite was recovered and weight was gained. In two cases the injections caused abscesses; in the one complicated with lupus, the latter condition was much improved, but nothing is said as to the pulmonary affection; 2 patients died, but in each of these the disease was far advanced before the treatment was begun. In one of the latter cases a careful dissection was made at the site of injection and no trace of the injected blood could be found either in the subcutaneous connective tissue or in the subjacent muscle, thus proving according to the authors that the whole of it had been absorbed. In 1 case (treated by

Dr. Cayrol) no improvement was noted after the first injection, except that the temperature became normal for four days. Of the 5 cases of external tuberculosis (sacrum, bones of hand and leg, hip-joint with resection of upper end of femur, Pott's disease, bones of foot with affection of lung) the improvement was not so marked, but yet the general condition was improved while locally there was diminution of suppuration, and in some cases healing. The *modus operandi* was to inject the goat's blood with a Pravaz's syringe into the gluteal region with due antiseptic precautions. The usual amount injected was 15 grammes, and the average interval between the injections was a fortnight.

(362) Adaptation of Different Organs to the Prolonged Use of Atropine.

LITTLE is at present generally known concerning the effects of the prolonged use of atropine. The most extensive experiments on this subject were made by Anrep (*Pflüger's Archiv*, Bd. xxi), who observed that in dogs tolerance of the drug was easily producible especially on the part of the nervous system and of the heart. He concluded that repeated injections of atropine gradually paralysed the vagus endings in the heart, and that the motor ganglia were also depressed, so that the heart reacted less and less to the drug; finally, the heart became weakened, and was no longer able to acomplish the same number of beats as in the normal state. Dr. Luigi Sabbatino (*Lo Sperimentale*, May 15th, 1891) has brought fresh evidence to bear on this subject, and has come to the conclusion that some of Anrep's results are only partially true. He finds (1) that the vagus adapts itself to the action of atropine, so that small doses which will at first paralyse it completely will, after a few repetitions, fail to produce paralysis; (2) that the adaptation of the heart to the drug is not due to depression of the motor ganglia, for, in his experiments, the heart-beats never slowed after the injections, but, on the contrary, were always quickened. His experiments were more extensive than those of Anrep, and were performed on frogs, rabbits, and dogs. The observations on frogs were made by immersing the animals for several days in water containing 0.08 per mille of atropine sulphate. Every four or five days a frog was removed, and the excitability of its vagus tested. At first no arrest of the heart could be produced on stimulation, but, after several days' immersion this was again possible; the sinus and auricles could be arrested, while the ventricular pulse became slowed. He therefore concluded that in frogs the paralysing action of atropine on the vagus diminishes with prolonged use. The experiments on rabbits (animals little susceptible to atropine) were made by giving daily and increasing injections of the drug. The animals remained perfectly well, and, on testing the irritability of their vagi this was found to be almost normal after repeated injections, whereas single doses completely paralysed the nerve. In rabbits, then, after prolonged use, atropine loses much of its paralysing effect on the controlling mechanism of the heart. In dogs, experimenting in the same way, he found that even after a considerable time large doses would completely paralyse the vagus; but that small doses, sufficient under ordinary circumstances to paralyse it completely, would produce only a slight diminution of its irritability, so that stimulation of the nerve then produced not arrest, but only slowing of the heart. In these animals, therefore, the power of adaptation is not so complete as in frogs and rabbits, but is still marked. As regards the action of the heart, Dr. Sabbatino found that the first effect of an injection was to increase the frequency of its pulsations rapidly up to a maximum; this maximum was, however, of short duration, not usually lasting more than ten minutes, after which a diminution commenced, at first rapid, then more gradual, so that even twenty-four hours after injection the pulse rate did not quite return to normal. Thus the drug produces a great frequency of the pulse, of which part is only temporary, and the remainder of long duration. Four hypotheses may be advanced to explain the above; stated briefly, they are as follows: (1) It may depend on the mode of elimination, which may be at first rapid, and then slower (this would not explain, however, the fact that, with repeated injections, the acceleration produced by each dose is less marked and less prolonged). (2) The drug may not only paralyse the inhibitory but it may excite the accelerator mechanism; and this view receives some support from the fact that the injections are followed by evident excitement of the nervous centres, which may also excite at first the accelerator centre in the medulla. (3) The third hypothesis is that of Anrep, who imagined that a depression of the intracardiac ganglia coming on after that of the inhibitory apparatus might account for the subsequent gradual slowing. (4) The last and most probable hypothesis is that the great initial frequency is due to the transitory increase of blood pressure produced by atropine. The inhibitory apparatus being paralysed, the increased pressure would act as a stimulus to the heart, at first strong, but gradually becoming feebler with the fall of pressure; the accelerator centres may also be at the same time stimulated. From the diminishing effect of repeated doses, the author thinks that with use atropine loses this excitant action on the accelerator mechanism. As regards the action on the nervous centres, he agrees with Albertoni, who concluded (*Arch. f. exp. Path. u. Pharm.*, 1882) that atropine at first increases the excitability of the brain, but that with repeated doses the excitability is neither so great nor does it diminish the possibility of producing epileptiform convulsions by stimulation of the cortex. The motor apparatus of the iris appears to be usually completely paralysed, although in one rabbit, after several injections, exposure to a strong light would produce constriction of the pupil. This observation would correspond to the slight susceptibility of these animals to atropine. Some interesting observations were made on the prolonged action of the drug on the secretion of saliva and of sweat. The first few doses would completely mask the effect of pilocarpine subsequently given, but finally a tolerance seemed to be set up, so that pilocarpine would then produce a free flow of saliva and sweat. The tolerance of these mechanisms is therefore considerable, but is not prolonged much after discontinuance of the drug, for a further injection after an interval is found to be as powerful as ever. Finally, observations on dogs show that the intestinal nerves also exhibit to some extent a tolerance for atropine. At first the drug produced much intestinal irritation and diarrhœa, but this usually passed off after a few days, unless the dose was increased.

(363) Antipyrin as a Hæmostatic.

PROFESSOR G. CESARI, of Modena, gives the results of some experiments on the hæmostatic influence

of antipyrin applied locally (*Rassegna di Scienze Mediche*, February, 1891). He says antipyrin applied to an injured blood vessel or to living tissues, whether in the form of fine powder or watery solution, does not irritate or dry or produce any caustic effect on the tissues or cause pain. It gives rise to local anæmia more or less marked according to the length of time the agent is applied. A 50 to 100 per cent. watery solution produces no change in the calibre of capillaries; but if made to bathe the veins of the mesentery of a frog or the jugular or femoral vein of a rabbit, more or less perceptible narrowing of these vessels can be observed. When a 50 per cent. watery solution is applied to the frog's mesentery the circulation in the capillaries is first slowed, and afterwards arrested; if the experiment is prolonged, the circulation in the larger blood vessels is gradually stopped. While the small vessels of the mesentery and lung in the frog, and those of the ear and skin in the rabbit, become almost bloodless, after an application of a 50 to 100 per cent. solution, the larger vessels become dark red in colour. Mixed with blood just drawn from the veins of a man or rabbit, antipyrin acts in different ways according to the concentration of the solution. If that is less than 20 per cent., the blood if placed in a test tube acquires a persistent red colour; and, if slight coagulation occurs, this disappears at once on merely shaking the fluid. If the same blood is mixed with 30 to 100 per cent. solution the colour is less dark; the blood remains liquid at the temperature of the laboratory, but if kept at a temperature of 38° C., it acquires a syrupy consistence and appearance, and the test tube can be turned upside down without a drop of blood escaping, though there is no trace of coagulation. Antipyrin does not lower or in any way alter the blood pressure. To sum up, antipyrin more or less speedily arrests hæmorrhage from both large and small bloodvessels when applied in solutions of not less than 40, or, better, 50 per cent. The effect of the application of solutions of the latter degree of concentration is almost equal to that of the finely powdered drug. Both the solution and the powder should be applied on plugs of cotton wool. Antipyrin, in short, if placed in contact with blood at its normal temperature, thickens and condenses it, and, without causing coagulation, prevents it from escaping from the vessels. It stops secondary hæmorrhage, and is altogether, according to Cesari, a most valuable hæmostatic.

PATHOLOGY.

(564) Coccidia.

M. Le Dentu (Report of the Fifth Congress of Surgery at Paris, *Semaine Médicale*, April 11th, 1891) made a report on results obtained by his laboratory assistant, M. Fabre-Domergue. In scrapings from fresh cancerous tissue treated by various reagents and methods three types of the bodies described as coccidia were found. In epitheliomata they occupy the centre of the "epidermic globe," and constitute its nucleus. This body is a simple cell of the rete mucosum which hypertrophies, then the protoplasm retracts, the nucleus becomes less distinct, nucleus and cell become striated, the protoplasm becomes absorbed, and both disappear. In the absence of the "epidermic globe" only the large cell may be found, which represents the so-called coccidium; or only cellular *débris* may be found. After a study of these transformations M. Fabre-Domergue concludes that the bodies described as coccidia are only epithelial cells modified and fixed in various phases of their evolution. M. Albarran, in criticising M. Fabre-Domergue's statements, admitted that epithelial cells simulated coccidia, but held that true coccidia existed in the diseased conditions in which they had been described. He stated that he had found them in cysts of the upper jaw, where their epithelial origin was impossible.

(565) The Tail in Human Subjects.

Dr. Oscar Schäffer (*Schmidt's Jahrb. der Gesammt. Medicin*, No. 5, 1891) describes cases where a tail was developed in the human subject. In all, however, the subject was a fœtus with distinct malformations. In the first the caudal appendix was over one inch and a half in length, but was not developed from the coccyx, nor even connected with it. The "tail" arose as a fibrous band, beginning above the left sacral cornu, and probably represented the ligamentum sacro-spinosum. The fœtus had atresia ani et urethræ, defective development of the heart and genito-urinary organs, and club hands. In the second case the fœtus was anencephalous. The tail was two-fifths of an inch long, and ran to a point which bore a tuft of hair. Much fat lay between the tail and the coccyx. In the third and fourth cases the fœtuses were phocomelous, and the "tails" but slightly developed. Thus the "tails" in the above four cases were not true caudal appendages, bearing a continuation of the vertebral column.

(566) The Part Played by Microbes in Suppuration.

In the course of a discussion at the recent French Congress of Surgery on the different forms of suppuration examined from bacteriological and clinical points of view, the following conclusions were laid down by M. Verneuil (*Revue de Chirurgie*, May): (1) microbes are necessary for pyogenesis, pus is the function of microbes; (2) there are many known pyogenic microbes, but the number of these has not yet been made out; (3) some are constantly pyogenic and nothing more, others seldom produce pus and are pre-eminently infective; (4) the centres of suppuration are in some instances, mono-microbic, in others poly-microbic; (5) in poly-microbic purulent centres there are three kinds of association—one of different agents that are all invariably pyogenic, another of invariable with occasional agents of suppuration, and a third of pyogenic with non-pyogenic agents; (6) a purulent centre originally mono-microbic may become poly-microbic; (7) a substitution of one kind of microbe for another kind may take place in a centre of suppuration; (8) the collection of pus may become amicrobic, the pyogenic agent may disappear and the pus become sterile; (9) microbes which engender pus pervade the whole region of suppuration; (10) pyogenic microbes do not always excite suppuration nor at the time of invasion; (11) the vitality of pyogenic microbes varies in the different forms—some disappear very quickly, others retain their vitality for almost indefinite periods; (12) suppuration may in every instance be regarded as due to the presence of bacteria; (13) the specificity of microbic agents being assumed, it becomes necessary to make out the specific action of each form of microbe. From these etiological conclusions one may readily deduce certain therapeutical indications: (1) In cases of open suppuration, as, for instance, unhealed wounds and carbuncle, the treatment

should consist in prolonged antiseptic baths, and in the application of antiseptic powders; (2) if the suppuration be intradermic, as in lymphangitis and erysipelas, the application of antiseptic powders will suffice; (3) if the suppuration be deep seated, one must penetrate into the collection in order to evacuate the pus and to sterilise it. Free incisions are useless; all that is necessary is to let out the pus through a small incision, and to replace it by a microbe-killing agent.

BACTERIOLOGY.

(567) Milk and Diphtheria.

E. KLEIN (*Nineteenth Annual Report of the Local Government Board*, 1889-90, p. 167) inoculated two milch cows (both of which had calved three or four weeks, and then had been kept under observation for a week or ten days) with a broth culture of the bacillus diphtheriæ derived directly from human diphtheria membrane, which had been incubated for three days at 37° C. On the third day he found at the seat of inoculation (under the skin of the left shoulder) a swelling containing clear sanguineous serum; this was preceded by a temporary rise of temperature. On the fourth day a small group of vesicles occurred on one teat, and on the udder near to it. On the succeeding days these vesicles lost the clear vesicular appearance, became purulent, and the centre became dark, whilst at other stages they were covered with brown crusts. Around each was distinct nodular induration of the skin, and each was placed on a raised injected corium. On removal of the crusts an ulcer covered with a purulent film was left. The pustules and ulcers varied in size from $\frac{1}{4}$ inch to $\frac{1}{2}$ inch or more in diameter; most of them were on the udder between the hind teats, but some were on the outer surface of the udder near to the base of the teats; they still continued to appear on the eighth day. The most marked feature about these was that they ran their course in from six to eight days. In the lymph of these vesicles and pustules Klein succeeded in demonstrating the bacillus diphtheriæ, both under the microscope and in the culture tube. With milk taken from these cows cultures were also obtained, though not in large numbers. If the milk was allowed to stand at a temperature of from 19° to 20° C. the organism was found in enormously increased numbers. One of the cows died on the fifteenth day, the other was killed on the twenty-fourth, when marked *post-mortem* changes were found: necrosis and œdema at the point of inoculation, enlargement of the lymph glands, pneumonia, enlarged spleen, necrotic patches in the liver, and fatty degenerative changes in the kidney. Organisms were found only at the point of inoculation. Calves inoculated with scrapings of the eruption of the cow developed similar symptoms, but no vesicles were formed. Cats fed on milk from the affected cows died with typical diphtheria, and communicated the disease to other cats placed in the same room, typical diphtheria bacilli being found in the diphtheritic membranes of these animals. The last experiment was not specially arranged, and thus loses and gains in value as it is considered from different points.

(568) Bacillus resembling the Leprosy Bacillus.

CAMPANA (*Riforma Med.*, No. 14, 1891) found in cultivations of tissue from tuberculous leprosy a bacillus which morphologically entirely resembled the leprosy bacillus. Treated by Ehrlich's method, it did not take on a double staining. In two cases this bacillus grew in agar-agar and in meat peptone with 3 per cent. grape sugar. It did not grow in fluid media. Inoculated on rats, no result followed. The author does not infer that this bacillus is identical with the leprosy bacillus, finding only a resemblance between the two.

DERMATOLOGY.

(569) Varieties of Urticaria.

DR. BEATTY (*Brit. Journ. of Derm.*, May, 1891) describes a case in which a lady, aged 23, after suffering from urticaria, had a second eruption consisting of extremely irritable papules, from 2 to 6 millimetres in diameter. The papules after a few days became flattened, first at the periphery, and then at the centre; brown pigmentation took place at the periphery, and the centre became pale. The papules did not develop as wheals, but were independent of them. They remained itchy for a long time, and some of the old pigmentary spots, having for a time ceased to be irritable, became irritable again. A few elongated patches formed, with a pigmented periphery and white elongated centre. The papules continued to appear after the wheals had ceased to form. Dr. Beatty associates the case with two cases previously published by him in the *Trans. Acad. Med. in Ireland*, vol. ii, p. 37, 1884, and considers that urticaria associated with pigmentation may be divided into three groups—namely, urticaria pigmentosa; ordinary urticaria, or urticaria papulosa of children, followed by temporary brown pigmentation: and urticaria, in the course of which occur, sometimes quite independently of the wheals, extremely itchy papules, which on subsiding leave either pigmentation only, or more commonly a zone of brown pigmentation, with a white pigmentless centre. These papules continue to come out after the wheals have ceased to appear. The pigment may eventually disappear, and white pigmentless spots remain. The disease may occur after childhood.

(570) Three Cases of Lupus Vulgaris in one Family.

DR. DENT (*Brit. Journ. of Derm.*, May, 1891) describes three cases of lupus in a family which consisted of eight girls and three boys, the patients being the youngest of the girls. There was no phthisical taint in the family. The three children for some years slept together in the same room, the two elder for a time in the same bed.

(571) A New Variety of Grouped Acniform Eruption of the Face.

MM. HALLOPEAU and CLAISSE (*Annales de Derm. et de Syph.*, April, 1891, p. 329) showed at the Paris Society of Dermatology a case in which there had been a sudden development of papules on the face. They were hard, hemispherical, painless, and were isolated or in groups. Some suppurated, none disappeared within seven weeks, and they were present only on the face.

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